

RAMON LLULL: AN ERGODIC  
LITERARY SYSTEM

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Figure 1. The conventional figure of Ramon Llull, established by lullian iconographic tradition, which appears in *Apostrophe*, printed in Barcelona in 1504.

Discussing Ramon Llull (Mallorca, 1232-1316) is always a complex operation, ergodic, I would venture given the context in which we find ourselves. It is like this due to the fact that its origins lie in an exceptional case in the history of literature, which can only be understood within the setting of his time and his historical circumstances. Llull is someone who, living in a Mallorca where people of Catalan – Jaume I the Conqueror had just settled on the island and he himself was a son of the original Catalan settlers on the island – Muslim, Jewish, Italian, Aragonese and southern French origin, the last from Montpellier, lived side by side; he abandoned his life, his wife and his children, in addition to his court privileges and his literary occupation as a troubadour poet<sup>1</sup> to devote himself solely and exclusively to God.

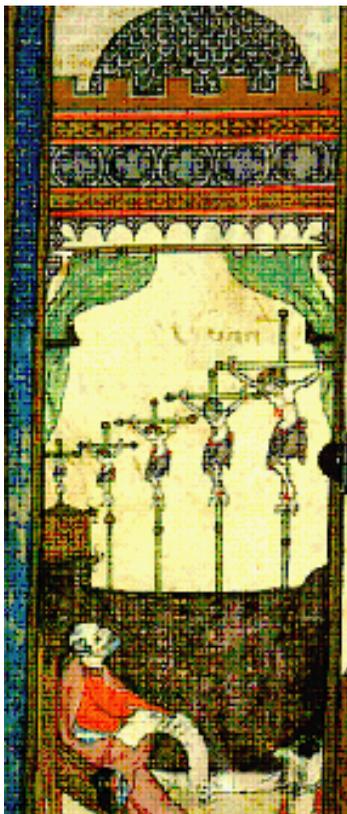


Figure 2. The first miniature of the *Breviculus* depicting Llull, now bald and with a moderately flowing beard, at home, at night. He is composing a love song when Christ appears to him. The representation of his house and the positioning of the bed, with the pillow, the curtains and a rich bedspread are highly visible and point to someone of a certain standing. Llull appears seated on some sort of bench, with his left leg crossed to act as a rest for the parchment upon which he is writing. His clothes are ostentatious and brightly coloured.

The fame of madman, heretic and alchemist that legend about him and the works attributed to him has given him does not match the real extent of his character and his spiritual mission. Lull was not only a passionate believer, he was someone who affirmed that he had received a message of revelation<sup>2</sup> that moved him to change his life and become a Christian activist, the extent of which was both intellectual and religious. As an intellectual, he used literature<sup>3</sup> as a medium and through its pages flowed the varied knowledge: philosophy geometry, theology, logic, law, astronomy, medicine, rhetoric, science, etc., but he also wrote literary works even though he rejected literature, or, rather, he opted for a “new literature”.

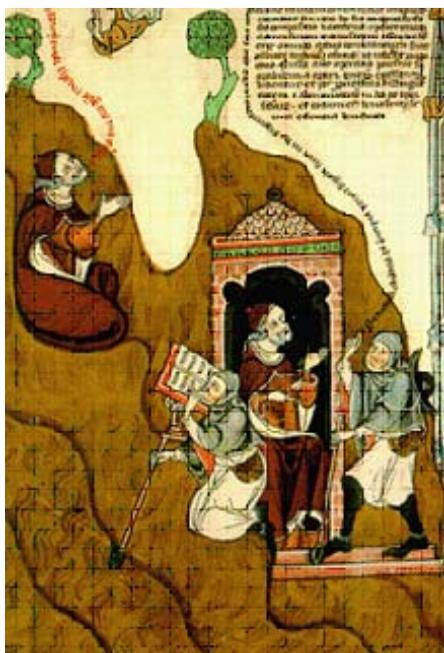


Figure 3. Fourth miniature of the *Breviculum*. The first part shows Lull high up on a mountain in contemplation; from a cloud the hand of God is blessing him and Ramon gives thanks to the illustration of which he has been the object. In the second part, Lull has made a small, simple dwelling for himself on the mountain; a shepherd (note his crook and pouch), kneeling, reading Ramon’s books on a lectern; later, the same shepherd blesses Ramon before leaving and concludes by instructing him in the workings of Art.

Although he did not have any formal education, he was the author of a vast number of works, the fruit of a long life and unceasing activity: two-hundred and sixty-six works written in Catalan and Latin<sup>4</sup>, which, printed in modern form, cover tens of thousands of pages. The focal point of this output, this “literary system” classified as a true “system of thought”, is what we know as “Lullian Art”. An “art” that is for a contemporary of Lull’s, and according to an ancient classical view, an acquired technique. In his case, it is a philosophical-methodological meeting illuminated directly by God that must allow rational conversion to Christianity by the infidels. With its foundations in natural philosophy and logic from the Aristotelian system adopted by thirteenth-century universities, it works on systemised, brief and irrefutable principles and acts as a basis for all the sciences. As Albert Soler, an expert on the works of Lull, summed it up:

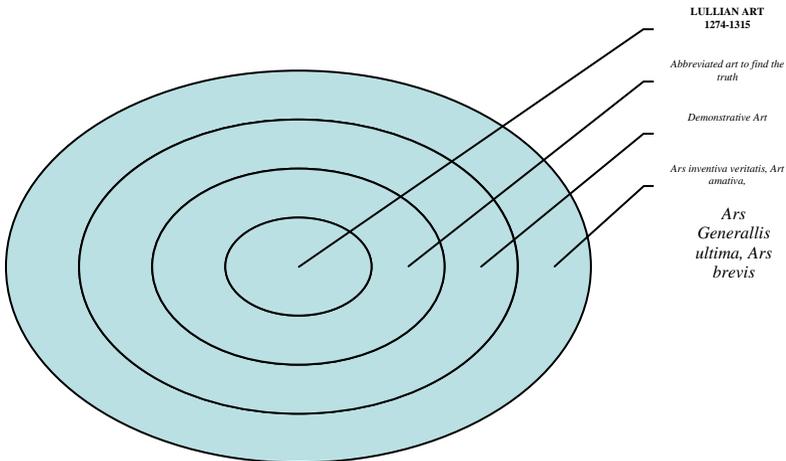
Lullian art is a system that explains the reality which leads to the necessary and irrefutable acceptance of the Christian God as the sole, last admissible reason for everything. It has an apologetic aspect because Lull’s original wish was to convince of the truth of the Christian faith. However, at the same time, it also has a scientific side to it because to prove this effectively and irrefutably, Lull bases the system on reality to arrive at the divinity; consequently, Art serves both to explain God and any aspect of creation, be it human or divine in origin. Finally, Art also has a contemplative aspect because on the journey from creation to the essence of divinity, one can go back to God<sup>5</sup>.

The *Llibre de contemplació en Déu*, an apologetic magnum opus of over a million words – in other words, a novel four times longer than Joanot Martorell’s *Tirant lo blanc* – and which appears to have been originally written in Arabic, then Catalan and finally translated into Latin<sup>6</sup>, was written with a view to becoming the “best book in the world” to make possible the conversion of the infidels, but the sheer size of it and the extent of its encyclopaedic knowledge made it the first link of the unique textual product that would eventually become *Art* (1274-1308). In all, it is a work that already contained everything that would be Lull’s subsequent work which, like a system of concentric circles surrounding Art, contains literary, philosophical and scientific works, but which – as affirmed by those who have studied it – “can scarcely be viewed as a huge

effort for the dissemination of science as a means of spreading the truth among men”.

As Josep Rubio<sup>7</sup> has maintained, the structure of the *Llibre de contemplació en Déu* depends on a series of numerological resources that project out over the macrostructure (books, chapters, distinctions) and the microstructure (paragraphs in the chapters), symbolic figures, constantly infiltrated by the trio of the Divine Trinity: there are three hundred and sixty-five chapters, one for each day of the year, materially reread in three volumes, which in fact cover five books and these, forty distinctions. Each chapter has thirty numbered paragraphs, divided into ten groups.

The content of the five books are as follows: the creation and the nature of God; God incarnate and the Redemption; the description of the vast natural reality through the windows that are the external senses (sight, hearing, smell, taste and touch) and the internal senses (thought, perception, conscience, subtlety and fervour). Books Four and Five have a less defined thematic structure: in the fourth book, Lull deals with matters of a philosophical nature, such as need and contingency, sensuality and intellectuality, faith and reason; in the fifth, there are forty-six chapters devoted to the general title of love and fifty-two to prayer, all full of philosophical intuitions and projects related to the future development of the initial versions of Art.



**Pre-Art Stage (1272-1274):** *Lògica d'Alatzell, Llibre de contemplació en Déu* (1274)

**ART Stage 1 (1274-1289) the creation of artistic thought.**

**Quaternary phase:**

*Abbreviated art to find the truth* (1274), *Llibre del genti i dels tres savis* (1274-76),

*Llibre de l'orde de cavalleria* (1274-76), *Doctrina pueril* (1274-76), *Llibre d'Evast e*

*Blaquerna* (1283), *Libri principiorum philosophiae, theologiae, iuris, medicinae*

**(1283-1289): Demonstrative Art (1283),** *Lectura super figuras Artis demonstrativae,*

*Ars compendiosa medicinae, Compendium seu commentum, Artis demonstrativae,*

*Fèlix o Llibre de meravelles* (1288-89)

**Stage 2 (1290-1308) Ternary phase: *Ars inventiva veritatis* (1289), *Art amative***

**(1290)**

*Taula general* (1293-94), *Desconhort* (1295), *Arbre de ciència* (1295-96),

*Proverbis de Ramon* (1296), *Arbre de filosofia d'amor* (1298), *Cant de Ramon* (1300),

*Rhetorica nova* (1301), *Llibre de mil proverbis* (1302), *Lliber de predicatione* (1304),

*Liber de significatione* (1304), *Liber de ascensu et descensu intellectus* (1305),

*Liber de fine* (1305)

***Ars Generalis Ultima* (1305-08), *Ars brevis* (1308)**

**Post-Art Stage (1308-1316):** *Vita coetanea* (1311), *Phantasticus* (1311), *Llibre de virtuts e de*

*peccats* (1313-14), *Art abreujada de predicació* (1313)

Table 1. Anthony Bonner has created an internal listing of Lull's opus (basically, *Selected Works of Ramon Llull*).

*A "new literature"*

As Pring-Mill<sup>8</sup> as said, general Art is a difficultly surmountable model of an exemplarist metaphysical and descendent type, which, although based on God, looks for its footprints in the world. The Lullian setting is very similar to the platonic, the

visible world rests on the invisible and at its zenith is God with His powers and attributes, below, the world that He has created in the image of His “dignities”. In effect, the Lullian system presents what Lull called the *dignities*<sup>9</sup> or absolute principles, which are the essential attributes of God shown in figure A. These should be combined with a set of relative principles<sup>10</sup> (those indicated in figure T), which work on the basis of a set of rules of interrelation and action that show the comparative logic or general doctrine of the relations which in Lullian Art link the beings of the world with each other and God.

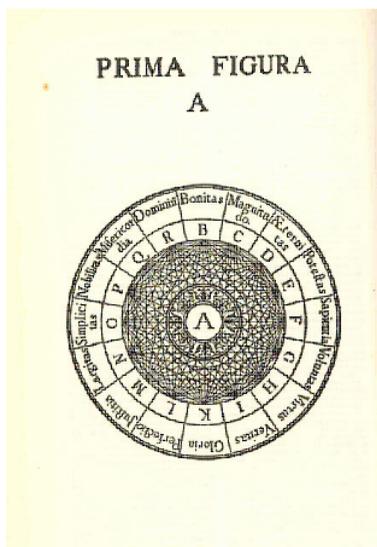


Figure 4. Figura A.

Art, however, is completed with a series of graphic signs and resources through which Lull expresses its elements and different possible combinations. The principles are the *alphabet*, the *figures* and the *table*. The *alphabet* was created from the allocation to the new concepts of each series of Art elements (basically, the absolute and relative concepts), of the new letters in the Latin alphabet, B to K. In a coherent logical language, the *figures* express the meanings of the letters of the alphabet. Their name and role varies significantly according to the evolution of Art. Besides this, the combined set of all these elements leads to the *combination*. As Eusebi Colomer<sup>11</sup> states, in accordance with mediaeval logic, Llull sees his Art as an instrument to

teach reason and syllogism. With this aim in mind, he first assigns a letter of the alphabet to the absolute and relative principles. Subsequently, using binary and tertiary combinations of letters, he establishes the necessary relations between the terms of a reason or different reasons which enable him to construct the logical reasoning of a mathematical foundation. In addition, however, the figures play a fundamental symbolic role, since, as affirmed by prestigious scholar Lola Badia, “they become a peculiar form of his language<sup>12</sup>”. The triple nature of the universe (divine, intellectual and material) is represented symbolically by a geometric figure: the full figure.

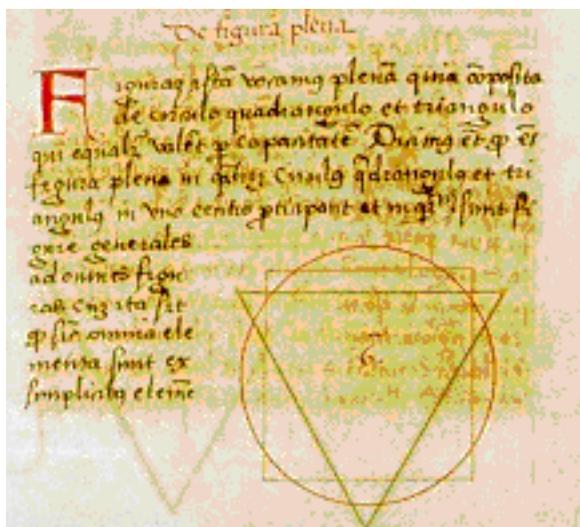


Figure 5. Palma de Mallorca, Public Library, ms. 1036, f. 5v.

Robert Pring-Mill has stressed the symbolic value of geometry in Lull’s work, where the relations of the divinity are established with circularity, therefore having neither beginning nor end. For its part, intellectual spirit is associated with triangular figures, based on the Augustine trinity of the three powers (understanding, desire and memory). Finally, the material is associated with quadrangular figures, since four are the elements of classical *physis*: fire, air, water and earth. The following illustration shows the different figures that have formed the basis of Lullian combination for relations between the absolute and relative principles<sup>13</sup>.

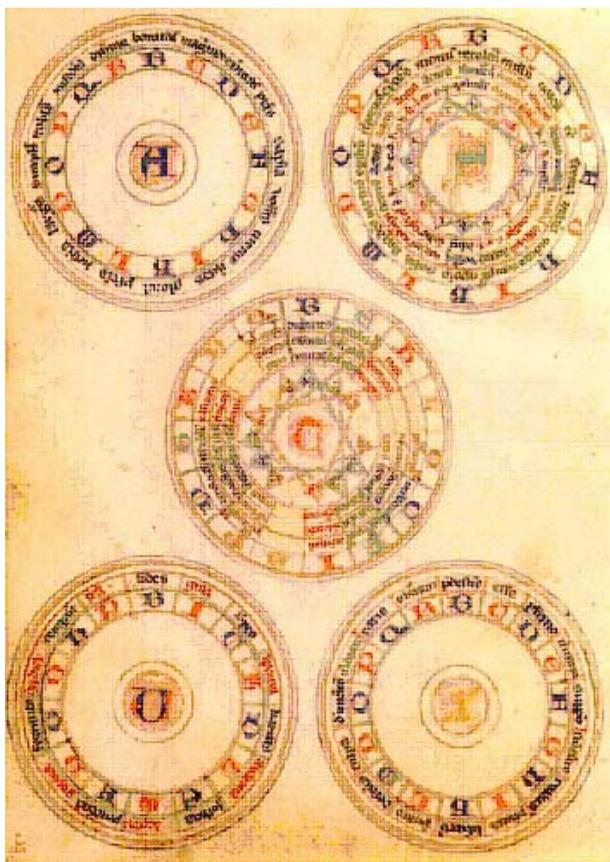


Figure 6. Figures of the *Ars demonstrativa* (1283) combination mechanism. Manuscript (lat. 200 clas. VI) of the Marciana Library in Venice.

### *Ergodic literature*

The place of Lullian work that best adapts to the idea of cybertext – textual artefact in which the functional differences between the mechanics play an essential role when it comes to determining the aesthetic process – is the *l'Arbre de ciència*. In this version of Art as an encyclopaedia and aimed at a non-university public, Lull uses a very different form of argumentation than is used in contemporary works of this

nature. Consequently, Lull does not use systematic catalogues of information as rhetorical figures, lists of constellations, etc., but he strives to describe the entire web of general principles that move his Art through a complex diagram of arboreal symbolism. It is this information that allows him to state that Art is a unique method for all sciences.

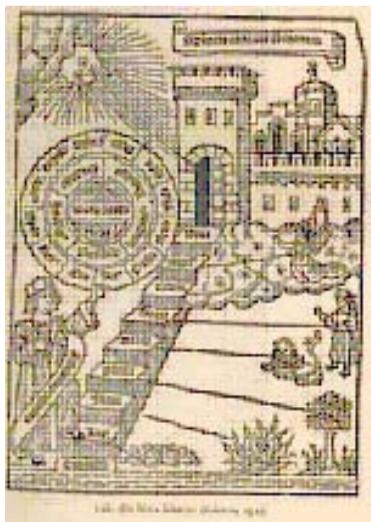


Figure 7. Symbolic representation of Art

*L'Arbre de ciència* is divided into sixteen trees, each with its own homologous internal structure, so enabling the presentation of all the branches of knowledge to be spread evenly, showing the interrelations and the links between the different levels of reality: consequently, all the trees start with a description of the general principles of each sector of knowledge, principles which are always the same, those of Art. The symbolic structure of this homology has seven parts: roots, trunk, branches, boughs, leaves, flowers and fruit. This is a creative evolution by Lull based on education in the Aristotelian tradition.



Figure 8. Representation of the eternal Tree of *l'Arbre de ciència*, after an edition of 1505.

From a literary point of view, the penultimate of these trees is especially interesting: the *Arbre exemplifical*. Its role is to provide science with a literary dimension that makes it suitable for dissemination in an attainable and entertaining way. Lullian singularity here lies in the fact that instead of presenting a closed list of stories, proverbial sermons, images or examples, the author presents the full power of an intellectual artefact that has enabled us to produce this kind of resource using the information of universal knowledge. And if throughout the entire output of Ramon Llull, the presence of miniatures makes reading the texts doubly ergodic, then in that case the presence of the illustrated trees in a work that aims to be didactic is altogether greater. We have already said that the trees consist of roots, trunk, branches, boughs, flowers, leaves and fruit, but each of the trees' parts are associated with a resource. The *Arbre exemplifical* has roots which link eighteen 're-narrations', or moral short stories related to the four physical elements and the general principles of Art. The trunk comprises fourteen series of proverbs that apply to all the trees. The branches contain fifteen examples, also related to the previous trees, while the boughs form the combination of narrations and proverbs. The leaves offer examples that link fourteen relative principles with the content of the trees. The flowers have seventeen series of proverbs and the fruits contain fourteen examples. In the last example, we discover the aim of the accumulation of knowledge: to prepare the spirit for elevation to contemplation of God<sup>14</sup>.

### *Literature and computing*

The approach towards Lullian texts by literary history and tradition would raise alarming or reproving reactions. Given the radical alternativeness of the procedures and intentions of Ramon Llull in his use of literature, which is presented as a "new literature", attitudes of alarm, reproval, surprise and, in some cases, enthusiasm<sup>15</sup> often appear. The ergodic perspective may be highly appropriate when submerging oneself in the Lullian universe. In fact, his textual output has been placed in relation to a level of reasoning and difficulty similar to that of computation.

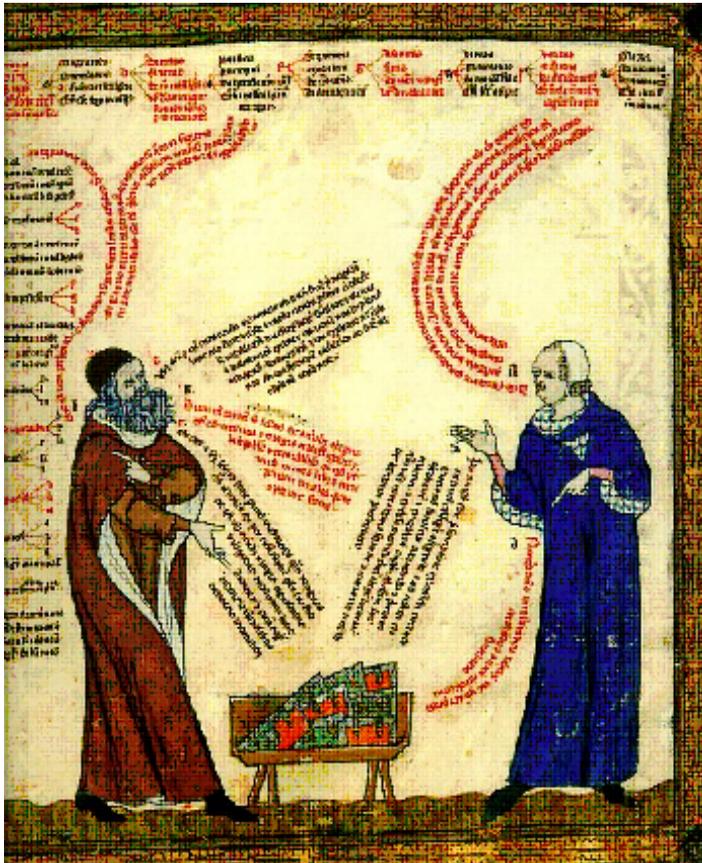


Figure 9. New Literature

Computing has a dual basis: the idea of logical calculation and its subsequent automation. And it seems that both things are a part, albeit a rudimentary one, of the combination project that constitutes a basic element of Lullian Art. As stated by Eusebi Colomer, « Lullian Art has been interpreted by Leibniz as a type of automatic thinking, some sort of conceptual mechanism which, once established, functions on its own<sup>16</sup>». In effect, the art of this “Mallorcan Catalan” is present as a rational tool, which, in modern terms, has been integrated into the theoretical horizon of computing as it can be translated into computational language. Anthony Bonner points out that the system of argumentation of Art is similar to the spoken proof method of 12

the ‘tauler’ (*tableaux*) and to the Prolog logical language associated with it. In the same vein, for Ton Sales there are ten components in the Lullian system that can be integrated into the world of computing concepts: from the idea of ‘calculating the results’ of logical reasoning, already explored by Leibniz, to that of a ‘thought alphabet’, mathematically interpreted by George Boole in the mid-nineteenth century, to a general method that is heuristic and deductive, to logical analysis, to the notion of a generative system, to operation through diagrams, or to the theory of graphs that arrange the triangular figures of Art<sup>17</sup>.

The artistic reformulation of science that Lull makes to Art – accompanied by a set of satellite works for each version, which apply the general principles to a specific branch of knowledge – turns science into a “new science”. Similarly, the subordinate condition of the narrative and the lyrical (as well as the homiletic and the proverbial) of the didactic and aesthetic presuppositions of Art transform his alternative literary output into a new literature. The combination of theological and scientific work with literature should be seen as a pedagogical effort, as an instrumentalisation of literature in an attempt to interest a public that could not access Art and the scientific or philosophical type of knowledge that it drives and contains. Because Lullian literature always aspires to the intellectual development of its readers, and the force of the analogy, metaphor or fiction are simply tools used to capture the attention of its readers and guide them to understanding complex, and often, abstract ideas.

## NOTES

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1. Lull does not appear in the classic roll-call of the troubadours as none of his troubadour compositions has survived, however, the *Vita coetanea* explains the moment when the call of God interrupted his life and how he was in the midst of composing a love song to a lady, so leading us to deduce that during his life at court he dedicated himself to this form of literature.
2. Revelations were a common occurrence in his time, although often overwhelmingly condemned by the Church, which was

always reluctant to believe this kind of supernatural presence (something that is still rather curious). However, beyond the verosimilitude that we should give to the question itself, I believe that this is an element of legitimacy which Lull (and others like him), being laymen and illiterate, needed to enter fully into discussions and comments about the scriptures and the Christian faith.

3. To discuss the totality of his literature, experts have used ideas such as “literary expression at the service of the dissemination of Art”, to mark the distance between this literature and the concept of “literature” understood in a classical sense (poems, novels, proverbs, examples, etc.). Robert Pring-Mill has described it as “the transmutation of science into literature”.
4. It appears that he may have written in Arabic, but no examples survive.
5. Soler (1999).
6. It should be remembered that when he receives the message of revelation, he speaks neither Arabic nor Latin and, therefore, he learns both languages to serve better the message of God.
7. Rubio (1997, 17-62).
8. Pring-Mill (1978).
9. In the definitive version of *Ars ultima* the following are new: goodness, greatness, eternity, power, wisdom, desire, virtue, truth and glory.
10. Difference, concordance, misfortune, principle, means, aim, majority, equality and minority.
11. Colomer i Pous (1997, 22-25).
12. Badia (2000, 300-305).
13. Precisely why Art adapts to the abilities of humans; because this also has a ‘memorial’ aspect, entrusted to the the figures, letters and other mnemotechnic procedures.
14. Domínguez Reboiras, Fernando & Villalba Varneda, Pere & Walter, Peter (eds.)(2002).
15. See Badia (1999, 11-12).

16. Colomer (1979).
17. In this vein, see: Künzel & Cornelius (1991, 102); Sales (1998).

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